

STATEMENT OF WORK (SOW)
for
NETWORK INTEGRATION ENGINEERING FACILITY (NIEF) SUPPORT SERVICES

PRODUCT & SYSTEMS PRODUCTION BRANCH, CODE 42150,
NAVAL INFORMATION WARFARE CENTER - PACIFIC
(NIWC PACIFIC)

31 March 2020

1.0 INTRODUCTION

Naval Information Warfare Center - Pacific (NIWC Pacific) is responsible for basic research, end-to-end system design, prototype development, systems engineering, integration, production, software loading, Pre-Installation Testing and Checkout (PITCO), deployment, and life cycle support of Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems. Major programmatic and technical thrusts directed toward merging advanced technology and a variety of Commercial-Off-The-Shelf (COTS) and Government Off-the-Shelf (GOTS) hardware and software into various C4ISR system variants and configurations, primarily supporting joint C4ISR and Cybersecurity needs of the military. While most of this work addresses the Navy's requirements, we actively support Marine Corps, Air Force, Army and Coast Guard programs and other government agencies.

The Product & Systems Production Branch, NIWC Pacific Code 42150, specializes in rapid-design and integration of COTS/GOTS products for military applications, Environmental Qualification Testing (EQT) services and Limited/Full Rate Production (LRIP/FRP).

1.1 SCOPE

The NIWC Pacific Code 42150 Engineering Support Services Contract is a performance based service acquisition Indefinite Delivery – Indefinite Quantity (IDIQ) Single Award Contract. The purpose of this contract is to provide program management, basic research, end-to-end system design, prototype development, systems engineering, integration, environmental qualification testing (EQT), production, software loading, pre-installation testing and checkout (PITCO), deployment, and life cycle support of Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems as identified in this SOW and individual Task Orders (TOs).

The Government views the Contractor as an integral part of the NIWC Pacific Code 42150 management team in order to manage risks, manage schedules, manage financials, manage testing requirements, manage engineering data, respond to various data calls, and provide timely reports to leadership in order to complete the mission within schedule. Highly developed skills in communication and collaboration with the Government are required.

Performance requirements will fall into six primary focus areas:

1. Program Management
2. Financial Management

3. Engineering Services
4. Engineering Data Management
5. Warehousing/Material Management
6. Testing/Technical Services

The Contractor shall, in response to individual task orders (TO) issued under this contract, provide professional support services that potentially span the entire spectrum of requirements associated with delivery of fully operational and sustainable C4ISR systems and technical data to the warfighter; and any future replacement, follow-on, or interrelated system or equipment associated with the below listed example C4ISR systems.

ACRONYM	TITLE
ADNS	Automated Digital Network System (All Platforms & Variants)
AEGIS ASHORE	Ashore Phased array radar-based combat system
ATIP	Advanced Time Division Multiple Access (TDMA) Interface Processor
BLII	Basic Level Information Infrastructure
C2P	Command and Control Protection
CANES	Consolidated Afloat Networks Enterprise Service
CBSP	Commercial Broadband Satellite Program
CDLMS	Common Data Link Management System
CDLS	Communications Data Link System
CENTRIX	Combined Enterprise Regional Information Exchange
CND	Computer Network Defense
COMSEC	Communication Security
CRYPTOMOD	Cryptographic Modernization
CUE	Cryptographic Universal Enclosure
CSRR	Common Submarine Radio Room
DCGS-N	Distributed Common Ground System-Navy
DMR	Digital Modular Radio
E-OLED	Enhanced Offline Encryption Device
EPS	Enhanced Polar System
ETF	Environmental Test Facility
FORCEnet	FORCEnet testing
FMS	Foreign Military Sales (various systems)
GCCS-M	Global Command and Control Systems Maritime
GBS	Global Broadcast System
GIG	Global Information Grid
HSGR	High Speed Global Ring
ICOP	Intelligence Carry-On Program
IUID	Item Unique Identification
IVN	Integrated Voice Networks
JENM	Joint Tactical Radio Systems (JTRS) Enterprise Network Manager
JINE	Joint Integrated Bridge System (IBS) Network Emulator
JTRS	Joint Tactical Radio Systems
JTT-M	Joint Tactical Terminal Maritime (Land Mobile and Portable Radios)
LEFFA	Link Encryption Family Form Fit Adaptor
LINK 16	LINK Tactical Data Link
LMMT	Link Monitoring and Management Tool
M2C2	Mobile Modular Command and Control System
MCAP	Medium Data Rate Channel and Control System
METMF (R) NEXGEN	Meteorological Mobile Replacement Facility Next Generation

ACRONYM	TITLE
MOC	Maritime Operation Center
MSC	Military Sealift Command (various Network Management Systems)
NSS	National Security Systems
NAVMACS	Navy Modular Automated Communications Subsystems
NAVAIR	Naval Air Systems Command (various systems)
NAVSEA	Naval Sea Systems Command (various systems)
NAVSSI	Navigation Sensor System Interface
NCVI	Navy Certificate Validation Infrastructure
NGEN	Next Generation Enterprise Network
NTCSS	Naval Tactical Command Support System
ORT	Operation Rolling Tide
PALMES	Public Affairs Live Media Engagement System
PC COMMS	Patrol Coastal Communications Systems
PCN	Patrol Coastal Network
RADIANT MERCURY	Software Assurance Application
RAPIDS	Real-Time Automated Personnel Identification System (Afloat only)
SATCC	Ship Air Traffic Communication Control
SCI NETWORKS	Sensitive Compartmented Information Networks
SCIP-IWF	Secured Communications Interoperability Protocol Inter Working Function
SubCANES	Submarine Consolidated Afloat Networks Enterprise Service
SubLAN	Submarine Local Area Net
TDL	Tactical Data Link
TSS	Tactical Switching System
USCG	United States Coast Guard (various systems)
USMC	United States Marine Corps (various systems)
VTCOIP	Video Tele Conference Over Internet Protocol
WDRS	Weather Data Recording Set

2.0 APPLICABLE DIRECTIVES/DOCUMENTS

The Contractor shall adhere to the following documentation or any revisions/updates thereof in the performance of the tasks identified in the Performance Requirements Section of this SOW. The Contractor shall notify the Contracting Officer Representative (COR) and Procurement Contracting Officer (PCO) in the event that a revision or update to the following documentation is a change to the contracted agreement, or perceived to be a change to the contracted agreement. This notification will detail the impacts of the change to the contracted agreement. The Contractor shall obtain written PCO approval of any revisions/updates prior to implementation.

DOCUMENT TYPE	NO. / VERSION	TITLE	DATE
Program Management Plan	Version 3.0	NIEF Project Management Plan	Latest Version
DoD Guide		Risk Management Guide for DOD Acquisition, Sixth Edition (Version 1.0)	Aug 2006
DoD Instruction (DoDI)	5000.01	The Defense Acquisition System	12 May 2003
DoDI	5000.2	Operation of the Defense Acquisition System	08 Dec 2008
DoD Manual (DoDM)		DoD Contractor Cost Data Reporting Manual	16 Apr 1999
DoDM	5000.4M	DoD Manual Cost Analysis Guidance and Procedures	Dec 1992

DOCUMENT TYPE	NO. / VERSION	TITLE	DATE
DoDR	7000.14-R	Department of Defense Financial Management Regulations http://www.dod.mil/comptroller/fmr	Varies by volume
NAVWAR Guide	Version 1.0	Scheduling Guide	Latest Version
NAVWAR Guide	Version 2.0	Acquisition Program Structure Guide	Latest Version
NAVWAR Handbook		Program Manager's Handbook	Latest Version
NAVWAR Manual		NAVWAR Business Financial Manager's Manual	Latest Version
FIAR Guidance		Financial Improvement and Audit Readiness Guidance Manual	Latest Version
Federal Regulation	48 CFR, CH 1	Federal Acquisition Regulations	Latest Version
DoD Regulation	48 CFR CH 2	Defense Federal Acquisition Regulation Supplement	Latest Version
DoD Directive	8500.1	Information Assurance	24 Oct 2002
DoD Instruction	8500.2	Information Assurance Implementation	06 Feb 2003
SECNAVINST	5223.2	Department of the Navy (DoN) Cost Analysis	16 Dec 2008
DoD Manual	5000.4-M	DoD Manual Cost Analysis Guidance and Procedures	Dec 1992
SECNAVINST	5000	DoN Requirements & Acquisition Process Improvements	26 Feb 2008
SSCPACINST	3910.1E	Engineering Drawing Number Assignment, Usage Reporting, and Drawing Master Control	21 Dec 2016

Table 2.1 - Applicable Military Specifications

SPECIFICATION	TITLE
MIL-D-23140D	Drawings, Installation Control, for Electronic Equipment
MIL-DTL-15024G	General Specification for Plates, Tags, and Bands for Identification of Equipment
MIL-DTL-17J (AMD 1)	General Specification for Cables, Radio Frequency, Flexible and Semi rigid
MIL-DTL-24640C (SUP 1)	General Specification for Cables, Light-Weight, Electric, Low Smoke, for Shipboard Use
MIL-DTL-24643C (SUP 1A)	General Specification for Cables, Electric, Low Smoke Halogen-Free, for Shipboard Use
MIL-DTL-24784D	General Specification for Manuals, Technical: General Acquisition and Development Requirements
MIL-PRF-85337B	Requirements for Manuals, Technical, Quality Assurance Program
MIL-PRF-16552F (NOT 1)	Filter, Air Environmental Control System, Cleanable, Impingement (High Velocity Type)
MIL-PRF-29612B (NOT 3)	Training Data Products
MIL-PRF-32216A (NOT 1)	Evaluation of Commercial Off-the-Shelf (COTS) Manuals and Preparation of Supplemental Data
MIL-DTL-901E	Requirements for Shock Tests H.I. (High-Impact) Shipboard Machinery, Equipment, and Systems

Table 2.2 - Applicable Military Standards

STANDARD	TITLE
MIL-STD-129R(1)	Military Marking for Shipment and Storage
MIL-STD-130N(1)	Identification Marking of U.S. Military Property
MIL-STD-167-1A	Mechanical Vibrations of Shipboard Equipment (Type I - Environmental and Type II - Internally Excited)
MIL-STD-202H	Electronic and Electrical Component Parts
MIL-STD-3034A	Reliability-Centered Maintenance (RCM) Process

DOCUMENT TYPE	NO. / VERSION	TITLE	DATE
MIL-STD-461G		Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment	
MIL-STD-881D (1)		Work Breakdown Structures for Defense Materiel Items	
MIL-STD-882E		System Safety	
MIL-STD-883K(3)		Microcircuits	
MIL-STD-961E(3)		Defense and Program-Unique Specifications Format and Content	
MIL-STD-1310H (1)		Shipboard Bonding, Grounding, and other Techniques for Electromagnetic Compatibility, Electromagnetic Pulse (EMP) Mitigation, and Safety	
MIL-STD-1399C		Interface Standard for Shipboard Systems	
MIL-STD-1472G		Human Engineering	
MIL-STD-704F (1)		Aircraft Electric Power Characteristics	
MIL-STD-810G		Environmental Engineering Considerations and Laboratory Tests	
MIL-STD-1474E		Noise Limits	
MIL-STD-1686C		Electrostatic Discharge Control Program for Protection of Electrical And Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)	
MIL-STD-2042C		Fiber Optic Cable Topology Installation Standard Methods for Naval Ships	
MIL-STD-2073-1E(2)		Standard Practice for Military Packaging	
MIL-STD-2110 (1)		Restoration, Overhaul, and Repair of Electronic Equipment	
MIL-STD-31000B		Technical Data Packages	
MIL-STD-38784A(2)		Standard Practice for Manuals, Technical: General Style and Format Requirements	
MIL-STD-46855A (1)		Human Engineering Requirements for Military Systems, Equipment, and Facilities	

Table 2.3 - Applicable Military Handbooks

HANDBOOK	TITLE
MIL-HDBK-61A	Configuration Management Guidance
MIL-HDBK-237D (1)	Electromagnetic Environmental Effects and Spectrum Supportability Guidance for the Acquisition Process
MIL-HDBK-419A (1)	Grounding, Bonding and Shielding for Electronic Equipment and Facilities, Volume 1 of 2 Basic Theory
MIL-HDBK-454B (1)	General Guidelines for Electronic Equipment
MIL-HDBK-470A (1)	Designing and Developing Maintainable Products and Systems, Volume I
MIL-HDBK-502A (1)	Product Support Analysis
MIL-HDBK-781A (1)	Reliability Test Methods, Plans, and Environments for Engineering Development, Qualification, and Production
MIL-HDBK-831A (1)	Preparation of Test Reports
MIL-HDBK-2036	Preparation of Electronic Equipment Specifications
MIL-HDBK-2097A (1)	Acquisition of Support Equipment and Associated Integrated Logistics Support
MIL-HDBK-2155 (1)	Failure Reporting, Analysis and Corrective Action Taken
MIL-HDBK-2165 (1)	Testability Program for Systems and Equipment
MIL-HDBK-5400 (1)	Electronic Equipment, Airborne, General Guidelines
MIL-HDBK-29612A/4A (3)	Glossary for Training

Table 2.4 - Applicable Industry Documents

DOCUMENT	TITLE
ASME Y14.100	Engineering Drawing Practices - American Society of Mechanical Engineers (ASME)
ASQC Q9004-1	American Society for Quality Control (ASQC) Quality and Quality Systems Elements—Guidelines, 1994
ASTM D3951	Standard Practice for Commercial Packaging - American Society for Testing and Materials (ASTM)

DOCUMENT TYPE	NO. / VERSION	TITLE	DATE
SAE AS9100D		(R) Quality Management Systems – Requirements for Aviation, Space and Defense Organizations (Includes ISO 9001:2015(2) QMS requirements) - Society of Automotive Engineers (SAE)	
SAE EIA-649B		National Consensus Standard for Configuration Management - Society of Automotive Engineers (SAE)/Electronic Industries Association (EIA)	
ECIA EIA/ECA-310-E		Cabinets, Racks, Panels, and Associated Equipment – Electronic Components Industry Association (ECIA)/Electronic Industries Association (EIA)/Electronic Components, Assemblies & Materials Association (ECA)	
IEEE 100		The Authoritative Dictionary of IEEE Standards Terms (Seventh Edition) - Institute of Electrical and Electronic Engineers (IEEE)	
ASME Y14.44		Reference Designations for Electrical and Electronic Parts and Equipment - American Society of Mechanical Engineers (ASME)	
IEEE 280		Standard Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering - Institute of Electrical and Electronic Engineers (IEEE)	
IEEE 315A		Graphic Symbols for Electrical and Electronics Diagrams (Including Reference Designation Class Designation Letters) - CSA Z99-75; Includes supplement to ANSI Y32.2-75 and IEEE 315-75	
PMI PMBOK		Project Management Body of Knowledge (PMBOK) - Project Management Institute (PMI)	
SAE GEIA-STD-0007		Logistics Product Data – Society of Automotive Engineers (SAE)/Government Electronics and Information Technology Association (GEIA)	

Table 2.5 - Applicable Navy Documents

DOCUMENT	TITLE
COMUSFLTFORCOMINST 4790.3C(3)	Joint Fleet Maintenance Manual
NAVAIR 00-25-403	Guidelines for Naval Aviation Reliability-Centered Maintenance Process
NAVICP 4441.170B(1)	COSAL Use and Maintenance Handbook
NAVSEA S9AA0-AB-GOS-010/GSO Revision 4	General Specifications for Overhaul of Surface Ships (GSO)
NAVSEA SA9AA0-AB-GOS-030 SUPL	General Specifications for Overhaul of Surface Ships (GSO) AEGIS Supplement
NAVSEA TS9090-310G	Technical Specification Alterations to Ships Accomplished by Alteration Installation Teams
NAVSEA 9090-1500	Provisioning, Allowance and Fitting Out Support (PAFOS) Manual
NAVSEA TS9090-700	CDMD-OA
NAVSUP P- 485 Volume I	Naval Supply Procedures, Afloat Supply
NAVSUP P- 485 Volume II	Naval Supply Procedures, Supply Appendices
NAVSUP P- 485 Volume III	Ashore Supply
NAVSUP P- 545	Depot Level Repairable (DLR) Requisitioning, Turn-In and Carcass Tracking Guide
SECNAVINST 5100.10K	Department of the Navy Safety Program
SECNAVINST 4440.34	Implementation of Item Unique Identification Within the Department of Navy
SECNAVINST 4440.33A	Operating Materials And Supplies – Accountability and Management
DOD Standardization Directories SD-2	DoD Acquisitions Buying Commercial Items and Non-developmental Items
DOD Standardization Directories SD-5	Market Research: Gathering Information about Commercial Products and Services
SPAWARINST 4720.1B	Modernization and Installation Policy
SPAWARINST 4720.5A	Policy and Procedures for the Development and Life-Cycle Management of Installation Requirements Drawings
SSCPACINST 5600.3D	Distribution Statements for SSC San Diego Technical Documents
PMW 160 (AN-FOSENV-REQS-0203)	Afloat Networks (AN) Family of Systems (FoS) Environmental Requirements dated 15 October 2009

DOCUMENT TYPE	NO. / VERSION	TITLE	DATE
SECNAV M-5510.30B		Department of Navy Personnel Security Program	
SECNAV M-5510.36		Department of Navy Information Security Program	
OPNAVINST F3300.53C		Navy Antiterrorism Program	
NSDD 298		National Operations Security Program - National Security Decision Directive	
OPNAVINST 3432.1A		Operations Security	
OPNAVINST 4790.4F		Ship's Maintenance and Material Management (3-M) System Policy	
SPAWARINST 3432.1		Operations Security Policy	

Table 2.6 – Applicable Department of Defense Documents

DOCUMENT	TITLE
DoD Instruction 8320.04	Item Unique Identification (IUID) Standards for Tangible Personal Property
DoD Directive 8320.03	Unique Identification (UID) Standards for a Net-Centric Department of Defense
DoD Directive 5230.24	Distribution Statements on Technical Documents
DoD Directive 5230.25	Withholding of Unclassified Technical Data from Public Disclosure
DoD Directive 3200.12	DoD Scientific and Technical Information (STI) Program (STIP)
DoD Instruction 5220.22-M	National Industrial Security Program Operating Manual (NISPOM)
DOD Instruction 5205.02	Department of Defense Operations Security (OPSEC) Program
DOD Instruction 5200.01	Department of Defense Security Program (Volumes 1 through 4)

3.0 PERFORMANCE REQUIREMENTS

All required written documentation, reports, briefing materials, viewgraphs, studies, meeting minutes, contracts, and other materials as described below shall be submitted in the specified format without content, grammar, spelling, punctuation or consistency errors. Deliverables shall be in accordance with the directives identified in the Applicable Directives/Documents Section of this SOW and materials delivered within the requestor's schedule.

The Contractor shall create deliverables in tools that are compatible with Navy Marine Corps Intranet (NMCI) (e.g., Microsoft Office, Microsoft Project, Adobe Acrobat Professional, etc.) and NAVWAR RDT&E (e.g., Microsoft Office, Microsoft Project, Microsoft Visio, Adobe Acrobat Professional, SolidWorks, AutoCAD, etc.). The Contractor shall also be familiar with the usage of the Navy's Enterprise Resource Planning (N-ERP) and Configuration Management Professional (CMPRO) tools to accomplish tasking as required.

The Contractor shall identify a Program Manager to perform the following activities:

- Serve as the single point of contact with the PCO and COR for all matters relating to the management of the contract;
- Provide oversight and control of all staff, subcontractors and associated activities under individual TO and facilitate and ensure effective communication and collaboration between the support team;
- Support NIWC Pacific Code 42150 leads in creating processes, strategies and concepts for the support team in order to execute the strategy of the organization as listed in the NIWC Pacific Code 42150 Program Management Plan;
- Work with NIWC Pacific Code 42150 leads in creating presentation material in a variety of formats (e.g., briefs, fact sheets, etc.) to enhance understanding of activities, accomplishments, and initiatives;
- Report costs, schedule, and performance at the task level for all tasks in the contract;
- Have sufficient authority to direct, execute, and control all elements of this contract; and
- Be prepared, at all times, to present and discuss the status of each TO in the contract.

3.1 PROGRAM MANAGEMENT (OPN / SCN / RDT&E / AC&I / NDSF / 3080 / APN / OE / OMN)

The Contractor shall designate a Program Manager (PM) who shall have responsibility for all aspects of this contract and the authority to commit the Contractor to specific actions within the scope of the contract. For each individual awarded TO and for the contract as a whole, the Contractor shall organize, coordinate, control and report the status, of all program activities including those activities assigned to subcontractors, to ensure the correct and timely delivery of all supplies and services specified in this contract

3.1.1 Contract Post Award Conference

The Contractor shall host a Post Award Conference (PAC) with the Government Code 42150 Program Manager (PM) and the principal team. With mutual agreement between the Procuring Contracting Officer (PCO) and the Contractor, a PAC will occur within fifteen (15) calendar days after contract award. The PAC shall be held at a contractor facility located in the San Diego, CA area or be conducted via video teleconference (VTC). At the PAC, the Contractor shall demonstrate management procedures and processes, plans and processes for engineering, plans and processes for production, schedule dates for near term engineering activities, schedule dates for near term production activities, and mutual understanding of contractual requirements.

3.1.2 Task Order Post Award Planning Meeting

As directed by individual TO, the Contractor shall participate in a Post Award Planning Meeting (PAP) in San Diego, CA within 30 calendar days after TO award. If requested by the Government, the Contractor shall provide video teleconferencing capability for the Post Award Planning Meeting. The PAP shall be a one (1) day event at which the Contractor shall demonstrate to the Government the management procedures; review of technical and other specialty area status; and to establish schedule dates for near term critical meetings/actions. The Contractor shall present management, key personnel, a Production Plan (as required), an Integrated Master Schedule (IMS), and program implementation processes. The Contractor shall document and perform action item follow-up and resolution activities.

3.1.3 Program Management Reviews

As directed by individual TO, the Contractor shall conduct Program Management Reviews (PMRs). The Contractor shall provide selected viewgraphs and graphic materials to support and document Program Office briefs and activities. The PMR content shall contain all aspects of the contract to address cost, schedule, and performance for all TOs. Such content can include schedule status, progress against major milestones, cost/funding status, risk management, personnel resources, configuration management, Supply Chain Risk Management (SCRM), systems and software engineering, logistics, quality assurance, safety status, identification and status of technical issues, and lower tier supplier accomplishments and issues.

The Contractor shall document significant events, outcomes, and action items resulting from the PMR. The Contractor shall perform action item follow-up and resolution activities. The Contractor shall provide teleconferencing or video teleconferencing capability for the PMR, as requested by the Government.

The Contractor's functional leads shall report on the status of their respective tasks.

The Government reserves the right to schedule additional reviews or working groups if issues arise or significant events or changes occur.

3.1.4 Program Management Support

As directed by individual TO, the Contractor shall be responsible for assisting with reviews, analyses, presentations, evaluations, reports, recommendations, and documentation to support program cost, schedule, and performance requirements or related activities for multiple NIWC Pacific Code 42150 contracts and task orders.

3.1.5 Program Planning Documentation

The Contractor shall provide program planning documentation, program guidance documentation and other program management assistance as required.

3.1.6 Program Management Data

The Contractor shall assist in the preparation and maintenance of management data such as work breakdown structures, support team schedules, briefings, and management reviews and metrics reports.

3.1.7 Contract Data Management

The Contractor shall establish a single, centralized system for management of all data required under this contract. In developing information for the Government, the Contractor shall make the maximum use of existing data and provide maximum multiple use of technical information.

Any electronic databases or applications used to store, track, share, transmit or display information pertaining to this contract shall be web-based. Government use of any data management system shall not require installation of client software on government computer systems (with the exception of Internet Explorer and Microsoft Office). Specific data management functions shall include schedule control for deliverables, maintenance of deliverables, approval of deliverable format, and distribution and delivery of data products. The system shall include facilities for storage of all data developed or utilized for this contract, and shall provide equal access to data by the Government. The contractor shall ensure all data is centrally available for government review to ensure continuity of the system fabrication, and engineering and supporting documentation. When existing Government Data Portals are available, the contractor shall make maximum use of those resources.

3.1.8 Environmental, Safety, And Occupational Health

As directed by individual TO, the Contractor shall implement a management approach to ensure systems and associated processes are environmentally safe, do not cause health hazards, and comply with all applicable Environmental, Safety, and Occupational Health (ESOH) related government laws (federal, state, and local).

The Contractor shall implement an ESOH Program that supports the Government ESOH program, and supports the update to the Government Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE)

While working at the NIWC Pacific government facility, the Contractor shall be cognizant and follow all safety regulations as those set forth by OSHA and NIWC Pacific and is subject to unannounced government inspections. This includes the use of personal protective equipment (PPE) as required in designated areas. The Contractor shall also establish and provide at a minimum annual safety refresher training for their employees tailored to working in a

government facility (i.e. HAZMAT handling procedures, use of PPE, safe use of tools, electrical safety, etc.).

3.1.9 Hazardous Material Management

As directed by individual TO, the Contractor shall be responsible for full compliance with Title 29, Code of Federal Regulations 1910.1200, Hazard Communication Standard and National Aerospace Standard (NAS) 411, Hazardous Material Management Program. The Contractor shall ensure all Contractor personnel and facilities used in performance of this SOW and individual TOs (including those of subcontractors) satisfy federal, state, and local environmental regulations and statutes. The Contractor shall make every attempt to minimize and restrict the use of hazardous materials and toxic or corrosive substances in the manufacture, operation, and maintenance of the system. To identify all hazardous materials and hazardous wastes the Contractor shall assess applicable processes, methods, and procedures used in the design, production, inspection, testing, operations, maintenance, and repair of C4ISR systems and associated equipment. The Contractor shall ensure all materials and their use fall within prescribed federal, state, and local limits and procedures for usage and disposal. The Contractor shall give special attention to any known or potential heavy metals and Ozone Depleting Substances (ODS), as well as any substances or materials posing health or safety hazards. The Contractor shall deliver the initial Hazardous Materials Management Program (HMMP) Report/Hazardous Materials Usage List (HMUL) and the associated Material Safety Data Sheets (MSDS) to the Government in accordance with individual TOs.

In the event the Contractor identifies any real or potential problem, the Contractor shall notify the Procuring Contracting Officer (PCO) and technical representative in writing of the specific concerns and recommended course of action.

3.1.10 Diminishing Manufacturing Sources and Material Shortages

As directed by individual TO, the Contractor shall implement a Diminishing Manufacturing Sources and Material Shortages (DMSMS) Program. The Contractor shall establish and implement a process to identify and immediately notify the Government of pending and emergent obsolescence issues and emergent vendor implemented changes associated with any hardware or software that is part of any C4ISR system at all indentured levels. The Contractor shall obtain necessary data progressively during any program life cycle phase using sources such as the preferred parts list, Bill of Materials (BOM), vendor surveys, inspections, etc. The Contractor shall update information at the part level as the design progresses or changes. This information shall be sufficient to enable forecasting and management of any associated DMSMS issues.

The Contractor shall establish and implement a process to notify the Government of any/all C4ISR system related vendor product recall announcements. The Contractor shall notify the Government within 24 hours of receiving notification from the OEM/Vendor/Subcontractor that supply materials, modules, and/or products for C4ISR systems.

As directed by individual TO, the Contractor shall deliver report(s) listing all hardware products used in system production and identifies product End of Product and End of Support dates.

The Contractor shall maintain identical configuration for near-term production and make recommendations for life cycle support (e.g. lifetime buy, etc.). The Contractor shall manage

changes implemented by vendors without the prior knowledge in accordance with the Configuration Change Control process as cited within this Statement of Work (Section 3.3.3).

3.1.11 Warranty Performance System

As directed by individual TO, the Contractor shall establish and maintain a commercial warranty performance system that identifies and lists all items warranted under this contract. The Contractor shall provide warranty reports to the Government monthly, in accordance with DI-SESS-81639. The warranty report shall include each warranted item and be indexed and identified by item description, serial number, model or part number, and date of acceptance by the Government. The Contractor shall maintain all data required for the Government to pursue warranty provisions, remedy, and relief for each item. The Contractor shall provide data to the Government via Warranty Reports for the duration of the warranty period through the end of the contract lifecycle. The Contractor shall document all warranty claims and transactions and make available for Government review quarterly.

3.1.12 IUID Compliance Plan

The Contractor shall develop and provide an IUID Compliance Plan for Government review, and shall implement the plan upon Government approval. The Contractor shall clearly document in related Technical Data Packages (TDP) the method used to implement IUID. As required shall register IUIDs in the performance of the TO.

3.1.13 Quality Assurance Plan

As directed by individual TO, the Contractor shall have and maintain a Quality Assurance (QA) plan that details procedures, plans, and other data necessary to ensure an efficient and effective quality system. The Government reserves the right to disapprove the Contractor's and/or subcontractor's quality system or portions thereof when the quality system(s) fails to meet contractual requirements at either the program or the worksite services level. The Contractor shall develop, and include within the QA plan, a quality assurance checklist for all C4ISR system as directed by individual TOs.

3.1.14 Product Validation and Supply Chain Risk Management

As directed by individual TO, the Contractor shall comply with Product Validation and SCRM requirements. The Contractor shall deliver and maintain a SCRM plan detailing Contractor processes and procedures for implementing and sustaining SCRM activities for the NIWC Pacific Code 42150 Engineering and Production Services Contract. The Contractor shall utilize Supply Chain Risk Management (SCRM) in order to guard against counterfeits, unauthorized production, tampering, and theft insertion of malicious software as well as poor manufacturing in the supply chain. Product Validation and SCRM activities shall include, but are not limited to SCRM plans, product validation reports, certification of component authenticity, and post-notification alerts.

3.1.15 Integrated Master Schedule (IMS)

The Contractor shall identify a Senior Specialist as an Integrated Master Schedule Coordinator (IMSC) who shall be solely responsible for implementing and maintaining the NIWC Pacific Code 42150 Integrated Master Schedule (IMS). The IMS shall detail the tasks and subtasks to achieve the required tasking in support of all NIWC Pacific Code 42150 contracts, task orders, and internal efforts. The Contractor shall maintain and make available the IMS for the

Government during contract performance. The IMS is a tool for day-to-day tracking of the program/project that rolls up to increasingly higher summary levels of tasks/subtasks. For all activities, events, and milestones the contractor will provide a contract number, task number, task name, duration, predecessor tasks, resource, start date and finish date. Illustrate the proper interdependencies of all activities, events and milestones. Provide the ground rules and assumptions used in estimating the task duration shown in the schedule (e.g., historical data, experience on similar efforts, vendor schedules, number of workdays per week, number of shifts, and company holidays). Identify the program's critical path for the period of performance defined by the support team; provide supporting narrative that explains the critical path, and any unusual program aspects. The contractor will provide alternative scenarios and be able to identify how a change of any task/subtask affects the critical path.

3.1.16 Risk Management Coordination and Administration

The Contractor shall identify the Senior Specialist as a Risk Management Coordinator (RMC) who shall be solely responsible for implementing and maintaining the NIWC Pacific Code 42150 Risk Management Program. Specific duties of the RMC are to maintain and improve the Risk Management process and plan; establish a risk review schedule that complements the submission of required reports; prepare risk mitigation and management plans related to Cost Estimating efforts; support Risk Review Boards; assist in the identification of cross-enterprise-level risks; and schedule and conduct Risk Management training.

3.1.17 Strategic Planning and Analysis

As directed by individual TO, the Contractor shall support Strategic Planning, Business Intelligence Analysis and Organizational Process Architecture efforts to enhance the efficiency and effectiveness of the business operations of NIWC Pacific Code 42150. The contractor shall assess issues raised and their impact to the support team, facilitate communications to build consensus across the various stakeholders and deliver solutions that communicate short and long-term strategic objectives of the support team.

3.1.18 Organizational Process Management

As directed by individual TO, the Contractor shall provide organizational process management for business operations, engineering operations, program and project management processes, and deliver various solutions, that shall include assisting with identification and designation of strategic management and support team processes.

3.1.19 Meetings

The Contractor shall participate in and support meetings as requested. The Contractor shall be responsible for creating all supporting documentation necessary for full participation in the meeting. The Contractor shall provide a Progress, Status and Management Report. The report shall contain all aspects of the contract addressing cost, schedule, and performance for all TOs. This report shall identify schedule status, progress against major milestones, cost/funding status, risk management, manpower, configuration management, Supply Chain Risk Management, systems and software engineering, logistics, quality assurance, safety status, identification and status of technical issues, lower tier supplier accomplishments and issues, action item status, disposition list of all GFP/GFE items received and/or required, and TO questions.

As directed by individual TO, the Contractor shall provide status of small business utilization and subcontracting activities.

3.1.20 Program Documentation

The Contractor shall prepare and maintain program documentation on the NIWC Pacific Code 42150 collaboration site, in hard copy binders, and other media as required. The Contractor shall maintain a documentation library or archive in digital format in a Government provided site for all briefing, minutes, decision documents, etc.

3.1.21 Graphics Support

The Contractor shall support NIWC Pacific Code 42150 with the preparation and creation of graphics, briefings, web pages and multimedia presentations. Preparation shall include creating illustrations, diagrams, and charts, as directed by the COR.

3.1.22 Customer Resource Management

As directed by individual TO, the Contractor shall support the NIWC Pacific Code 42150 Configuration Change Board (CCB), to include coordination/preparation of meeting; documenting all minutes, action items, decisions; and tracking all action items to completion. Interface with all NIWC Pacific Code 42150 team members to anticipate and manage changes to efforts, such as technical requirements, business requirements and schedule. Assist in development and maintenance of a NIWC Pacific Code 42150 customer engagement dashboard tracking mechanism (track metrics for trending issues/concerns). Track customer satisfaction and feedback and report metrics.

3.1.23 Engineering Design Reviews

As directed by individual TO, the Contractor shall prepare, present, and conduct Engineering Design Reviews (i.e. Preliminary Design Review (PDR), Critical Design Review (CDR)) for new C4ISR systems at a location and time mutually agreed upon between the Government and Contractor. The PDR/CDR shall typically last no more than one (1) working day. The Contractor shall conduct the PDR/CDR to include a review of the manufacturing facilities and a review of the Quality Assurance/International Organization for Standardization (QA/ISO) documents / process and Configuration Management (CM) documents / process associated with the engineering tasking defined herein. The Government shall determination successful completion of PDR/CDR based on the exit criteria provided in the PDR/CDR reference document.

3.1.24 Local Area Network

The Contractor shall support and manage facility engineering and support computer workstation assets and peripheral equipment at the government facility. The facility workstation assets will be as a stand-alone independent service providing equipment capable of direct connections to the government RDT&E network servers for efficient cost-effective management, administration, configuration management, and logistics processes in order to execute the contractor's responsibilities under this contract. The computer assets shall be configured in accordance with government network compliance, and the Contractor shall maintain physical and Information Assurance (IA) security measures and restricting access to only approved contractor and sub-contractor personnel directly supporting the government facility.

3.1.25 General Housekeeping

The Contractor shall implement their own policies and procedures to provide for maintaining daily cleanliness of workspaces utilized by contractor personnel within a government facility.

The Contractor shall perform bi-weekly inspections to ensure cleanliness of workspaces. Any non-conformances shall be resolved within 2 weeks of identification.

3.2 FINANCIAL MANAGEMENT (OPN / SCN / RDT&E / AC&I / NDSF / 3080 / APN / OE / OMN)

3.2.1 Financial Tracking Support

The Contractor shall identify a Project Manager as a Financial Manager who shall be responsible for providing NIWC Pacific Code 42150 management and team members with the most accurate and complete financial tracking information to facilitate optimal budget utilization for all NIWC Pacific Code 42150 contracts and task orders. The Contractor shall monitor and report cost, schedule and performance findings to NIWC Pacific Code 42150 management to support sound financial decisions. The Contractor shall assist the Project Manager (PM) in coordinating and responding to data calls. The Contractor shall implement processes; provide advice and recommendations in planning, preparing, processing, and coordinating tasks in the areas of budget and accounting.

3.2.2 Cost Estimating

As directed by individual TO, the Contractor shall assist the cost estimating and analysis team with efforts necessary to conduct short and long range cost estimating and analyses for all NIWC Pacific Code 42150 efforts to include program office cost evaluations and assessments, risk/uncertainty analyses, trend analyses, variance analyses, and sensitivity analyses. They shall assist in the preparation of acquisition strategies and other acquisition-related documentation normally required for major decision-making events, as required. They shall also assist in the creation of cost databases, cost estimating relationships, cost factors as required.

3.2.3 Program Risks

The Contractor cost team shall assist in the preparation of program risk (uncertainty), trend analysis, variance analysis, and sensitivity/analyses, required metrics tracking, and other cost-related reporting and documentation requirements. The Contractor shall perform this effort as required in support of Milestone Events, Gate Reviews, and Decision Reviews.

3.2.4 Economic Analysis

The Contractor shall update the economic analyses and program evaluations as required to support selection of cost effective alternatives.

3.2.5 Analysis of Alternatives (AoAs)

The Contractor shall support the Program Office in the generation of AoAs, Courses of Action (COAs), Business Case Analyses (BCA) and other trade studies ensuring the most cost affordable solution and/or best value option is available for consideration by Code 42150 management.

3.3 ENGINEERING SERVICES (OPN / SCN / RDT&E / AC&I / NDSF / 3080 / APN / OE / OMN)

3.3.1 Engineering Support Services

As directed by individual TO, the Contractor shall perform Engineering Support Services and provide specific data deliverables. Engineering Support Services, as defined by individual TO,

as directed can be on NIWC facilities or on Contractor facilities, shall include activities and data deliverables such as:

1. Design, develop, validate, modify, maintain, utilize drawing packages, and deliver drawing trees (interrelationship of engineering drawings and associated lists), Technical Data Packages (TDP), "As-Built" drawings, red-lined drawings, Installation Requirements Drawings (IRD), Installation Control Drawings (ICD), Installation Support Drawings (ISD) and block diagrams (schematic and functional, including all interfaces) using the latest version of SolidWorks, AutoCAD, and Microsoft Visio software packages.
2. Develop or revise specification Engineering Change Requests (ECRs) in support of production modifications.
3. Provide plans, design analysis, recommendations, and procedures for the following: Information Systems; Safety; Human Factors; Reliability; Manufacturability, Maintainability; FMECA; Availability; EMI/EMC; TEMPEST; Transportability; Survivability; Weight or Weight Distribution; Heating/Cooling; Control of electrostatic discharge; environmental compliance; Hazardous Materials; Mercury contamination; and Power or Power Distribution.
4. Modification of baseline documents of an approved Engineering Change Request (ECR), Request for Deviation, or Request for Waiver. Baseline documents include specifications, drawings and associated lists, manufacturing processes and procedures, test and inspection plans/procedures, quality assurance provisions, inspection and test equipment requirements, test equipment calibration description and requirements, packaging requirements, tooling/jigs/fixture requirements, software documentation, technical manuals, maintenance and supply support documentation, and training/training support documentation, and CI/CSCI. The Contractor shall develop and provide this data to the fleet using the Configuration Data Managers Database - Open Architecture (CDMD-OA).
5. Develop, document, validate and maintain engineering mockups, Engineering Design Models (EDMs), and associated support equipment for specific C4I systems /equipment in accordance with specific system/equipment specification(s).
6. Develop and maintain planning and life cycle logistical support through assistance in documentation and data repository of the following: 1) Integrated Logistics Support Plan(s) (ILSP); 2) User's Logistics Support Summary (s) (ULSS); 3) Logistics Requirements and Funding Summary(s) (LRFS); 4) Logistics Support Analysis Plans (LSAP); 5) Computer Resources Life Cycle Management Plan(s) (CRLCMP); 6) Life cycle cost estimations. The Contractor shall discuss in all ILS Plans, systems engineering analyses and engineering change proposals the impacts on all ILS elements. The ILS elements include the following: 1) Technical data; 2) Training and training support; 3) Maintenance; 4) Supply Support; 5) Configuration Management; 6) Support Equipment; 7) Manpower and Personnel; 8) Packaging, Handling, Storage and Transportation (PHS&T); 9) Computer resources support; 10) Facilities; and 11) Design Interface.
7. Provide technical assistance for installation and configuration in support of production modifications/system updates.
8. Provide technical assistance to perform troubleshooting, disassembly, assembly, modification, repair, and rebuild of equipment and systems.

9. Perform system evaluations, requirement reviews or trade studies to determine recommended changes to perform End-of-Life (EOL) COTS replacements, correct deficiencies, achieve cost savings or improve operations and maintenance.
10. Participate in Government System Engineering Reviews and Engineering Integrated Product Team (EIPT) meetings.
11. Provide technical assistance for modifying installation procedures.
12. Provide technical assistance for finalizing test results and reports.
13. Develop plans and provide technical assistance for site surveys, inspection trips, and installation and production support.
14. Perform production system scientific and engineering studies such as analysis of architectural products, mechanical, electrical or electronic design, and software design for software products.
15. Perform production support for the creation of analysis artifacts such as studies, reports, cost estimates, trade studies, CONOPS, installation designs, instruction manuals, operation manuals, maintenance manuals, vulnerability assessments, risk management and assessments, critical manufacturing process descriptions, and other production engineering documentation.
16. Provide support in Government First Article Testing. The Government will perform First Article Testing in two parts: (1) mechanical inspection and (2) functional testing. The Government will conduct a full mechanical inspection of all hardware to ensure the system is built in accordance with the Build-to-Print TDP.
17. Develop environmental test procedures, perform the environmental tests and provide documentation to the government of the results. The environmental test procedures shall describe the proposed environmental tests and inspections in sufficient depth to prove that the system or equipment conforms to the requirements of the system or equipment specification(s). The contractor testing shall include Electromagnetic Interference (EMI) /Electromagnetic Compatibility (EMC); Shock; Vibration; Temperature; Humidity; all Environmental Factors. The Contractor shall provide support for the NIWC Pacific Environmental Test Facility (ETF) while conducting testing at this facility or as specified by the Government.
18. Develop inspection procedures, test procedures, perform tests, perform inspections, and provide results to the Government. The test procedures shall describe the proposed tests and inspections in sufficient depth to prove that equipment/system conforms to the requirements of equipment/system specification(s). The contractor testing includes Workmanship; TEMPEST; Maintainability; Reliability; Connectivity; Availability; Supportability; and final inspections as defined in system/equipment specifications. The testing shall consider partitioning to enhance fault isolation, initialization of circuitry under test control, module interface for test access and control, circuit controllability and examination, test point placements, and Built IN Test (BIT) fault isolation approach.
19. The Contractor shall provide rapid, small batch fabrication support between new designs and production. This shall include the engineering, integration, documentation, and fabrication of enough subassemblies and assemblies that constitute either parts of or an entire system/suite as required to support the design validation and documentation verification and validation processes prior to full rate production.

20. The Contractor shall develop, document, fabricate, validate, test and deliver Engineering Development Model (EDM)s for specific system/equipment in accordance specific system/equipment specification(s). EDM development shall identify support equipment requirements.

3.3.2 Government Furnished Information (GFI)

The Contracting Officer Representative (COR)/Technical Point of Contact (TPOC) will provide contractor personnel access to information and documentation (relative to the requirements, procurement, testing, and evaluation) within 10 working days of the Contractor's request.

3.3.3 Configuration Change Control

As directed by individual TO, the Contractor shall submit all requests for changes to the Government Production Configuration Control Board (CCB) in the form of an Engineering Change Request (ECR). The Contractor shall submit ECRs using the Production CCB ECR Template. The Contractor shall use the ECR process for all of the following situations:

1. Request a change to a drawing or document (i.e. Technical Data Package (TDP), Factory Acceptance Test Procedure (FAT), etc.).
2. Notify the Government of obsolescence issues.
3. Any request for deviation (RFD) to the TDP for a particular system or set of systems.
4. Any other change or notification.

3.3.4 Technical Data Rights

As directed by individual TO, the Contractor shall evaluate drawing number requirements and submit a request to the Government for government drawing numbers. All technical data (recorded information (regardless of the form or method of the recording) of a scientific or technical nature (including computer software documentation) relating to supplies procured by an agency) produced under this contract shall be solely owned by the Government. The Contractor shall deliver all technical data produced (i.e. complete 3D Models and associated libraries of all systems, assemblies, and parts produced using the latest version of SolidWorks, 2D Drawings produced using the latest version of AutoCAD or Microsoft Visio, and any associated Parts Lists using the latest version of Microsoft Excel) in a format specified by individual TO.

3.3.5 Senior Systems Engineering Support

The Contractor shall provide senior systems engineering support in the form of the development of technical insertions and solutions to supported systems. This support shall include; development and review of 400 series documents (High Level Architecture, Detailed Design, Requirements and Configuration Settings, Engineering Change Order (ECO), Bill of Materials (BoM), Operations Guidelines, Operations Procedures, Request for Changes (RFCs) and other technical documentation as required. Develop and review design, technical reports, cost estimates, and correspondence including letters and messages. Prepare and review design proposals, security documents, verify installation drawings, and ensure specifications and design meet performance requirements. Ensure System Engineering process are designed, recorded, instituted and audited for the engineering efforts.

3.4 ENGINEERING DATA MANAGEMENT (OPN / SCN / RDT&E / AC&I / NDSF / 3080 / APN / OE / OMN)

3.4.1 Engineering Drawing Management (EDM)

The Contractor shall identify a Senior Configuration Management Specialist as an Engineering Data Manager who shall be responsible for providing assistance to the Government in the processing and management of engineering drawing number requests for NIWC Pacific Code 42150 using SSCPACINST 3910.1E as guidance.

The Contractor shall manage all delivered technical data produced for the Government (i.e. complete 3D Models and associated libraries of all systems, assemblies, and parts produced using the latest version of SolidWorks, 2D Drawings produced using the latest version of AutoCAD or Microsoft Visio, and any associated Parts Lists using the latest version of Microsoft Excel).

Final Configurations of all Engineering Drawings and material will reside in the Government's CMPro, unless directed otherwise. Contractor will support the management of data in CMPro.

3.4.2 Configuration Management (CM)

As directed by individual TO, the Contractor shall maintain and manage all technical data (recorded information (regardless of the form or method of the recording) of a scientific or technical nature (including computer software documentation) relating to supplies procured by an agency) produced for NIWC Pacific Code 42150 using the Configuration Management Professional (CMPro) database tool and MIL-HDBK-61A as guidance. The Contractor's CM efforts shall include configuration identification, configuration change control, configuration status accounting, configuration verification and audits, and configuration data management. The Contractor shall maintain a CM process capable of processing configuration changes from identification through government approval and implementation, without impact to production schedules. The Contractor shall verify and maintain complete and accurate configuration identification of each configuration item (CI)/computer software configuration item (CSCI) and government-approved established Functional, Allocated, and Product baselines for equipment/systems. Additionally, the Contractor shall participate in the Government's bi-weekly CCB meetings.

3.4.3 As-Built Configuration List

As directed by individual TO, the Contractor shall validate As-Built Configuration Lists (ABCL) and upload them into the CMPro As-Built Database for any applicable NIWC Pacific Code 42150 contracts and task orders.

3.5 WAREHOUSING/MATERIAL MANAGEMENT (O&M, OPN)

3.5.1 Warehouse Management Support

The Contractor shall identify a Project Manager as a Warehouse/Inventory Manager who shall be responsible for establishing and maintaining warehousing operations necessary to perform Packaging, Handling, Storage, and Transportability (PHS&T), and disposal activities for all NIWC Pacific Code 42150 material and equipment.

3.5.2 Inventory Management Support

The Contractor shall establish and maintain inventory control, and shall be required to maintain material located on government facilities in N-ERP. For Inventory control, the Contractor can use the Navy owned CMPro or their own inventory management systems as long as it adheres to

Section 3.1.7 and follows procedures for all NIWC Pacific Code 42150 material and equipment. A book to floor, floor to book, inventory is required every year of all onsite material and equipment. The contractor shall manage all material in accordance with Financial Improvement and Audit Readiness (FIAR) Guidance and NIWC policies for OM&S material.

3.5.3 Support Equipment

The Contractor shall be responsible for providing support equipment that may be required to perform system and material handling, delivery, and maintenance support functions that are not part of an integral system. The Contractor shall track and maintain equipment that requires periodic calibration or certification. Records will be available to the government upon request. Specific examples include:

- a. Forklifts
- b. Cranes
- c. Lifting Slings
- d. Trucks
- e. Motorized Carts

3.6 TESTING/TECHNICAL SERVICES (OPN / SCN / RDT&E / AC&I / NDSF / 3080 / APN / OE / OMN)

3.6.1 Lab Management Support

The Contractor shall identify a Project Manager as a Lab Manager who shall be responsible for management of the NIWC Pacific Code 42150 Test Labs to include capacity planning; operation, maintenance and upgrade of all test beds and Lab facilities; resource planning; and lab security.

3.6.2 Government Acceptance Testing (GAT)

The Contractor shall inspect, configure and test all NIWC Pacific Code 42150 systems and equipment in accordance with Government approved Government Acceptance Test Plan. In addition, as directed by individual TO, the Contractor shall assist with the development of Government Acceptance Test Plans.

3.6.3 Independent Verification and Validation (IV&V) Support

As directed by individual TO, the Contractor shall provide IV&V support. The Contractor shall develop IV&V test documentation (test plan procedure and reports or independent assessments) and provide test support. Other support shall include independent report of findings, identifying, recommending and correcting issues prior to and post-test execution, and or validating test results.

3.6.4 Test Bed and Pre-Installation Test and Checkout (PITCO) Facility Support

The Contractor shall operate, maintain and upgrade, all test beds and PITCO facilities. The Contractor shall perform system installation validation testing, repairs, modifications and checkout prior to integration into the fleet to ensure quality and operational availability that meets system readiness objectives. The Contractor shall perform, at a minimum, the following:

- 1) Test the equipment/system.
- 2) Repair the equipment/system.
- 3) Identify and procure testing material and equipment.
- 4) Develop documentation as deficiencies warrant.
- 5) Examine/comply with schedules for equipment/system software loading, installation, material delivery, and ship/shore availability.

3.6.5 Environmental Qualification Testing (EQT) Lab Support

As directed by individual TO, the Contractor shall assist in operating and maintaining requirements associated with NIWC Pacific Code 42150 Environmental Qualification Testing (EQT) services. Assistance will include development of EQT procedures, conducting EQT, providing test results, and providing technical support services as required per individual task order. The Contractor will primarily conduct required work within the immediate San Diego geographical area; however, as detailed per individual task order, other locations outside of the San Diego area may be required.

3.6.6 Test and Maintenance Items Support

The Contractor shall evaluate, recommend, design or develop, validate, document and store: test stations; test jigs and fixtures; test program sets; Pre-Faulted Modules (PFMs); Fault Insertion Devices (FIDs); Simulators; Interim Supply Support items; Installation Checkout (INCO) kits; and Maintenance Assistance Modules (MAM).

3.6.7 Technical Assistance Support

As directed by individual TO, the Contractor shall provide technical assistance for site surveys, inspection trips, and installation support.

3.6.8 Hand Tools, Measurement Devices, and Test Equipment

The Contractor shall be responsible for providing hand tools, measurement devices, and test equipment that may be required to perform testing functions and repairs that are not part of an integral system. The Contractor shall track and maintain tools and equipment that require periodic calibration. Records will be available to the government upon request. Specific examples include:

- a. Oscilloscopes
- b. Torque wrenches
- c. Time-domain reflectometers (TDR)
- d. Inspection mirrors
- e. Optical TDR
- f. Fiber optic test sets
- g. Fiber optic tool kits
- h. Power measurement test equipment
 - i. Multimeters
 - ii. Amp meters
 - iii. Power analyzers

4.0 VEHICLES

The Contractor shall be required to operate forklifts, cranes, trucks, and motorized carts. Warehouseman/Forklift Operators and Crane Operators shall possess valid licenses. The Contractor shall also comply with any other Naval Facilities Engineering Command vehicle operation requirements in effect while operating at NIWC Pacific and other Government locations.

The Contractor is authorized to use government vehicles only for the performance specified per delivery/task orders. The Contractor must be properly insured for vehicles (government or contractor owned/rented) operated in connection with those delivery/task orders. The Contractor

shall provide a certificate of insurance coverage to the contracting officer verifying it has the proper insurance to operate the vehicles.

Contractor owned/rented vehicles shall be placarded with the contractor's name and logo or other signs. These signs should identify the name of the company and telephone number at a minimum. The Contractor is authorized to drive government vehicles for the performance of those delivery/task orders to transport equipment on site as required. The Contractor shall provide a certificate of auto insurance coverage to the Contracting Officer to show the proper insurance to operate said vehicles. Contractor personnel shall obtain their international driver's licenses prior to travel. The Contractor shall verify the driving requirements for each installation site and comply with the requirements. The Contractor shall coordinate with installation site to obtain international driver's license prior to travel.

5.0 TRAVEL

The Contractor is authorized long distance travel as specified within individual task orders coordinating with the Contracting Officer Representative for travel related requirements. All Requests for Foreign Travel requires submission of all outgoing Country/Theater clearance message requests to the NIWC Pacific Foreign Travel Team, Naval Information Warfare Center Pacific, 53560 Hull Street, Building 27, 2nd Floor -Room 206, San Diego, CA 92152 for action. The Contractor shall submit a Request for Foreign Travel form for each traveler, in advance of the travel, to initiate the release of a clearance message at least 30 days in advance of departure.

Specialized training for specific locations, such as SOUTHCOM human rights, or U.S. Forces Korea entry training, may also be required; NIWC Pacific security personnel will inform you if there are additional training requirements. Finally, EUCOM has mandated that all personnel going on official travel to the EUCOM AOR must now register with the Smart Traveler Enrollment Program (STEP) at <http://travel.state.gov/content/passports/en/go/step.html>.

Each Traveler represents NIWC PAC and the U.S. Navy while a visitor in a host nation. The conduct of each traveler shall obey all host nation's laws and respectful to the culture. Any misconduct in a host nation is reported immediately to numbered fleet commanders, NAVWAR and to NIWC PAC Commanding Officer. Any reports of contractor misconduct is dealt with immediately including swift removal of individuals from the host nation.

6.0 SECURITY REQUIREMENTS

A SECRET Clearance is required. The work performed by the Contractor will include access to Unclassified and up to Secret data, information, meetings, and spaces. The Contractor will require access to Communications Security (COMSEC), Restricted Data, and U-NNPI/NNPI at the government site. As required by National Industrial Security Program Operating Manual (NISPOM), Chapter 1, Section 3, contractors are required to report certain events that have an impact on the status of the facility clearance (FCL), the status of an employee's personnel clearance (PCL), the proper safeguarding of classified information, or an indication that classified information has been lost or compromised. Contractors working under NIWC Pacific contracts will ensure information pertaining to assigned contractor personnel are reported to the Contracting Officer Representative (COR)/Technical Point of Contact (TPOC), Contracting Specialist, the Security's COR. The Contractor shall also notify the appropriate agencies, such as

Cognizant Security Authority (CSA), Cognizant Security Office (CSO) or Department of Defense Central Adjudication Facility (DODCAF):

- (1) When there are issues related to the denial, suspension, or revocation of a security clearance of any assigned personnel;
- (2) Any adverse information on an assigned employee's continued suitability for continued access to classified access;
- (3) Any instance of loss or compromise, or suspected loss or compromise, of classified information;
- (4) Actual, probable or possible espionage, sabotage, or subversive information;
- (5) Or any other circumstances of a security nature that would affect the contractor's operation while working under NIWC Pacific contracts.

Operations Security (OPSEC): OPSEC is a five-step analytical process (identify critical information; analyze the threat; analyze vulnerabilities; assess risk; develop countermeasures) that is used as a means to identify, control, and protect unclassified and unclassified sensitive information associated with U.S. national security related programs and activities. All personnel working under this task will at some time handle, produce or process Critical Information or Critical Program Information (CPI), and therefore all contractor personnel must practice OPSEC. All work is performed in accordance with DoD OPSEC requirements, and in accordance with the OPSEC attachment to the DD254.

Contractor Identification: Contractor employees shall identify themselves as contractor personnel by introducing themselves or requesting they be introduced as contractor personnel and display distinguishing badges or other visible identification for meetings with government personnel. In addition, contractor personnel shall appropriately identify themselves as contractor employees in telephone conversations and formal and informal written correspondence.

Information Assurance: Certifications are required for contractor personnel under identified task orders on this contract:

Training and Certification of all contractor personnel performing IA functions requiring designation as IA Workforce positions IAW DoD 8570.01-M, shall be in accordance with DFARS Clause 252.239-7001 Information Assurance Contractor Training and Certification. The Contractor shall follow SECNAVINST 5239.3B of 17 Jun 2009 and DoD 8500.2 of 6 Feb 2003 when performing IA task orders. The Contractor shall meet applicable information assurance certification requirements, including (1) DoD -approved IA workforce certifications appropriate for each specified category and level and (2) appropriate operating system certification for information assurance technical positions as required by DoD 8570.01-M. IA Certification Level will be detailed per individual Task Order.

The Contractor shall provide documentation supporting the information assurance certification of personnel performing information assurance functions, reporting current IA certification status and compliance using Contractor Roster DI-MGMT-81596.

Contractor Roster

Contractor personnel who do not have proper and current certifications shall be denied access to DoD information systems for the purpose of performing Information Assurance functions. Anti-

Terrorism/force Protection (AT/FP) briefings are required for all personnel (military, DOD civilian, and contractor) prior to commencement of foreign travel. Contractor employees must receive the AT/FP briefing annually. The briefing is available at Joint Knowledge Online (JKO): <https://jkodirect.jten.mil> (prefix): JS; course number: US007; title: Level 1 Anti-terrorism awareness training, if experiencing problems accessing this website contact ssc_fortrav@navy.mil.

Note: Per OPNAVINST F3300.53C contractor employees must receive the AT/FP briefing annually.

7.0 CYBERSECURITY

7.1 CYBERSECURITY COMPLIANCE

(1) Cybersecurity (which replaced the term Information Assurance (IA)):

Cybersecurity, defined as prevention of damage to, protection of, and restoration of computers, electronic communications systems, electronic communications services, wire communication, and electronic communication, including information contained therein, to ensure its availability, integrity, authentication, confidentiality, and nonrepudiation. Contractor personnel shall perform tasks to ensure Navy applications, systems, and networks satisfy Federal/DoD/DON/Navy cybersecurity requirements.

(2) Cyber IT and Cybersecurity Personnel:

(i) The Cyberspace workforce elements addressed include contractors performing functions in designated Cyber IT positions and Cybersecurity positions. In accordance with DFARS Subpart 239.71, DoDD 8140.01, SECNAVINST 5239.20A, and SECNAV M-5239.2, contractor personnel performing cybersecurity functions shall meet all cybersecurity training, certification, and tracking requirements as cited in DoD 8570.01-M prior to accessing DoD information systems. Proposed contractor Cyber IT and cybersecurity personnel shall be appropriately qualified prior to the start of the contract performance period or before assignment to the contract during the course of the performance period.

(ii) The Contractor shall be responsible for identifying, tracking and reporting cybersecurity personnel, also known as Cybersecurity Workforce (CSWF) and Cyber IT workforce personnel. CSWF Report requirements are explained in a following paragraph. Although the minimum frequency of reporting is monthly, the task order can require additional updates at any time.

(iii) Contractors that access Navy IT shall also follow guidelines and provisions documented in Navy Telecommunications Directive (NTD 10-11) and are required to complete a System Authorization Access Request (SAAR) – Navy form as documented below.

When a contractor requires logical access to a government IT system or resource (directly or indirectly), the required CAC will have a Public Key Infrastructure (PKI). To securely read the card via a personal computer, a hardware solution and software (e.g., ActiveGold) is required. Pursuant to DoDM 1000.13-M-V1, CAC PKI certificates will be associated with an official government issued e-mail address (e.g. .mil, .gov, .edu). Prior to receipt of a CAC with PKI, contractor personnel shall complete the mandatory Cybersecurity Awareness training and submit a signed System Authorization Access Request Navy (SAAR-N) form to the contracts specified COR. Note: In order for personnel to maintain a CAC with PKI, each contractor employee shall complete annual cybersecurity training. Provided is the following guidance for training and form

submittal. However, contractors shall seek latest guidance from their appointed company Security Officer and the NAVWAR/NIWC Atlantic/NIWC Pacific Information Assurance Management (IAM) office.

- For annual DoD Cybersecurity/IA Awareness training, contractors shall use this site: <https://twms.nmci.navy.mil/> . For those contractors requiring initial training and do not have a CAC, contact the NAVWAR/NIWC Atlantic/NIWC Pacific IAM office at phone number [insert applicable contract information] (843)218-6152 or e-mail questions to ssc_lant_iam_office.fcm@navy.mil for additional instructions. Training is available at the IAM office or online at <http://iase.disa.mil/index2.html>.

- For SAAR-N form, the contractor shall use OPNAV 5239/14 (Rev 9/2011). Contractors can obtain a form from the NAVWAR/NIWC Atlantic/NIWC Pacific IAM office at or from the website: <https://navalforms.documentservices.dla.mil/> . The Contractor shall digitally sign and route forms to the IAM office via encrypted e-mail to ssclant_it_secmtg@navy.mil.

(iv) All contractor personnel with privileged access will be required to acknowledge special responsibilities with a Privileged Access Agreement (PAA) IAW SECNAVINST 5239.20A.

(3) Design, Integration, Configuration or Installation of Hardware and Software:

The Contractor shall ensure any equipment/system installed or integrated into Navy platform will meet the cybersecurity requirements as specified under DoDI 8500.01. The Contractor shall ensure that any design change, integration change, configuration change, or installation of hardware and software is in accordance with established DoD/DON/Navy cyber directives and does not violate the terms and conditions of the accreditation/authorization issued by the appropriate Accreditation/Authorization official. Contractors that access Navy IT are also required to follow the provisions contained in DON CIO Memorandum: Acceptable Use of Department of the Navy Information Technology (IT) dated 12 Feb 16. Use of blacklisted software is specifically prohibited and only software that is registered in DON Application and Database Management System (DADMS) and is Functional Area Manager (FAM) approved can be used as documented in para 4.2.2. Procurement and installation of software governed by DON Enterprise License Agreements (ELAs) – Microsoft, Oracle, Cisco, Axway, Symantec, ActivIdentity, VMware, Red Hat, NetApp, and EMC shall be in accordance with DON CIO Policy and DON ELAs awarded.

(4) Cybersecurity Workforce (CSWF) Report:

The following Cybersecurity Workforce (CSWF) Report is required for all service contracts utilizing Cybersecurity (i.e., Information Assurance) personnel supporting the DoD Global Information Grid (GIG) per DoD Instruction 8500.01. DoD 8570.01-M and DFAR's PGI 239.7102-3 have promulgated that contractor personnel shall have documented current cybersecurity certification status within their contract. The Contractor shall develop, maintain, and submit a CSWF Report monthly or as applicable at the task order level (Note: If initiated at the TO level, report not necessary at contract level). IAW clause DFARS 252.239-7001, if cybersecurity support is provided, the contractor shall provide a Cybersecurity Workforce (CSWF) list that identifies those individuals who are IA trained and certified. Utilizing the format provided in CSWF CDRL, the prime contractor shall be responsible for collecting, integrating, and reporting all subcontractor personnel. See applicable DD Form 1423 for additional reporting details and distribution instructions. The Contractor shall verify with the

COR or other government representative the proper labor category cybersecurity designation and certification requirements.

7.2 INFORMATION TECHNOLOGY (IT) SERVICES REQUIREMENTS

This paragraph only applies to IT contracts. The definition of Information Technology (IT) is any equipment or interconnected system(s) or subsystem(s) of equipment used in the automatic acquisition, storage, analysis, evaluation, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the agency. IT includes computers, ancillary equipment, peripherals, input, output, and storage devices necessary for security and surveillance. Electronic and Information technology (EIT) is IT used in the creation, conversion, or duplication of data or information. EIT includes telecommunication products, such as telephones; information kiosks; transaction machines; World Wide Web sites; multimedia (including videotapes); and office equipment, such as copiers and fax machines.

(1) IT General Requirements:

When applicable, the Contractor shall be responsible for the following:

- Ensure that no production systems are operational on any RDT&E network.
- Follow DoDI 8510.01 of 12 Mar 2014 when deploying, integrating, and implementing IT capabilities.
- Migrate all Navy Ashore production systems to the NMCI environment where available.
- Work with government personnel to ensure compliance with all current Navy IT & cybersecurity policies, including those pertaining to Cyber Asset Reduction and Security (CARS).
- Follow SECNAVINST 5239.3B of 17 June 2009 & DoDI 8510.01 of 12 Mar 2014 prior to integration and implementation of IT solutions or systems.
- Register any contractor-owned or contractor-maintained IT systems utilized on contract in the Department of Defense IT Portfolio Registry (DITPR)-DON.
- Only perform work specified within the limitations of the contract/task order.

(2) Acquisition of Commercial Software Products, Hardware, and Related Services:

This paragraph applies only to the purchasing/hosting of commercial software. Contractors recommending or purchasing commercial software products, hardware, and related services supporting Navy programs and projects shall ensure they recommend or procure items from approved sources in accordance with the latest DoN and DoD policies.

(i) DoN Enterprise Licensing Agreement/DoD Enterprise Software Initiative Program

Pursuant to DoN Memorandum – Mandatory use of DoN Enterprise Licensing Agreement (ELA) dated 22 Feb 12, contractors that are authorized to use Government supply sources per FAR 51.101 shall verify if the product is attainable through DoN ELAs and if so, procure that item in accordance with appropriate ELA procedures. If an item is not attainable through the DoN ELA program, contractors shall then utilize DoD Enterprise Software Initiative (ESI) program (see DFARS 208.74) and government-wide SmartBuy program (see DoD memo dated 22 Dec 05). The contractor shall ensure any items purchased outside these programs have the required

approved waivers as applicable to the program. Software requirements will be specified at the TO/contract level.

(ii) DoN Application and Database Management System (DADMS)

The Contractor shall ensure that no Functional Area Manager (FAM) disapproved applications are integrated, installed or operational on Navy networks. The contractor shall ensure that all databases that use database management systems (DBMS) designed, implemented, and/or hosted on servers and/or mainframes supporting Navy applications and systems be registered in DoN Application and Database Management System (DADMS) and are FAM approved. All integrated, installed, or operational applications hosted on Navy networks must also be registered in DADMS and approved by the FAM. The Contractor shall not integrate, install, or operate applications or Operational systems on the RDT&E network.

(3) Section 508 Compliance:

This paragraph only applies to IT contracts. The Contractor shall ensure that all software recommended, procured, and/or developed is compliant with Section 508 of the Rehabilitation Act of 1973, 26 CFR Part 1194 and pursuant to SPAWARINST 5721.1B of 17 Nov 2009. In accordance with FAR 39.204, this requirement does not apply to contractor software that is incidental to the task, software procured/developed to support a program or system designated as a National Security System (NSS) or if the product is located in spaces frequented only by service personnel for maintenance, repair or occasional monitoring of equipment.

(4) Software Development/Modernization and Hosting:

This paragraph only applies to software development and modernization. The Contractor shall ensure all programs utilizing this contract for software development/ modernization (DEV/MOD); including the development of IT tools to automate NAVWAR/NIWC Atlantic/NIWC Pacific business processes are compliant with DON Information Management/Information Technology (DON IM/IT) Investment Review Process Guidance requirements. Contractors shall neither host nor develop IT tools to automate NAVWAR/NIWC Atlantic/NIWC Pacific business processes unless specifically tasked within the task order or contract. The Contractor shall ensure IT tools developed to automate NAVWAR/NIWC Atlantic/NIWC Pacific business processes will be delivered with full documentation to allow non-proprietary operation and maintenance by any source. The Contractor shall ensure all programs are submitted with proof of completed DEV/MOD certification approval from the appropriate authority in accordance with DON policy prior to contract/TO award. (DITPR-DON Update) *Note must be listed on Investment Review Board (IRB) approved list.

7.3 INFORMATION SECURITY

Pursuant to DoDM 5200.01, the Contractor shall provide adequate security for all unclassified DoD information passing through non-DoD information system including all subcontractor information systems utilized on contract. The Contractor shall disseminate unclassified DoD information within the scope of assigned duties and with a clear expectation that confidentiality is preserved. Examples of such information include the following: non-public information provided to the contractor, information developed during the course of the contract, and privileged contract information (e.g., program schedules, contract-related tracking)

7.4 IT POSITION CATEGORIES

Paragraph 10.4 only applies when IT labor categories/positions are proposed. Pursuant to DoDI 8500.01, DoD 8570.01-M, SECNAVINST 5510.30, SECNAV M-5239.2, and applicable to unclassified DoD information systems, a designator is assigned to certain individuals that indicates the level of IT access required to execute the responsibilities of the position based on the potential for an individual assigned to the position to adversely impact DoD missions or functions. As defined in DoD 5200.2-R, SECNAVINST 5510.30 and SECNAV M-5510.30, three basic DoN IT levels/Position categories exist:

- Tier 5/5R: IT-I (Privileged access)
- Tier 3/3R: IT-II (Limited Privileged, sensitive information)
- Tier 1/1R: IT-III (Non-Privileged, no sensitive information)

Note: The term IT Position is synonymous with the older term Automated Data Processing (ADP) Position (as used in DoD 5200.2-R, Appendix 10).

Investigative requirements for each category vary, depending on the role and whether the individual is a U.S. civilian contractor or a foreign national. The Contractor PM shall assist the Government Project Manager or COR in determining the appropriate IT Position Category assignment for all contractor personnel. All required Single-Scope Background Investigation (SSBI) or Tier 5, SSBI Periodic Reinvestigation (SSBI-PR) or Tier 5R, and National Agency Check with Law and Credit (NACLC) or Tier 3/3R adjudication will be performed Pursuant to DoDI 8500.01 and SECNAVINST 5510.30. Requests for investigation of contractor personnel for fitness determinations or IT eligibility without classified access are submitted by NAVWAR/NIWC Atlantic/NIWC Pacific Security Office, processed by the OPM, and adjudicated by DOD CAF. IT Position Categories are determined based on the following criteria:

Tier 5/5R: IT-I Level (Privileged) - Positions in which the incumbent is responsible for the planning, direction, and implementation of a computer security program; major responsibility for the direction, planning and design of a computer system, including the hardware and software; or, can access a system during the operation or maintenance in such a way, and with a relatively high risk for causing grave damage, or realize a significant personal gain. Personnel whose duties meet the criteria for IT-I Position designation require a favorably adjudication of Single Scope Background Investigation (SSBI) or SSBI-PR or Tier 5/5R. The SSBI or SSBI-PR or Tier 5/5R is updated a minimum of every 5 years. Assignment to designated IT-I positions requires U.S. citizenship unless a waiver request is approved by CNO.

Tier 3/3R: IT-II Level (Limited Privileged) - Positions in which the incumbent is responsible for the-direction, planning, design, operation, or maintenance of a computer system, and whose work is technically reviewed by a higher authority at the IT-II Position level to insure the integrity of the system. Personnel whose duties meet the criteria for an IT-II Position require a favorably adjudication of a Position of Trust National Agency Check with Law and Credit (PT/NACLC) or Tier 3/3R. Assignment to designated IT-II positions requires U.S. citizenship unless a waiver request is approved by CNO.

Tier 1/1R: IT-III Level (Non-privileged) - All other positions involved in computer activities. Incumbent in this position has non-privileged access to one or more DoD information systems/applications or database to which they are authorized access. Personnel whose duties

meet the criteria for an IT-III Position designation require a favorably adjudication of a Position of Trust National Agency Check with Written Inquiries (PT/NACI) or Tier 1/1R.

8.0 CONTRACT DELIVERABLES

The Contractor shall provide the following deliverables in accordance with the below listed schedule:

Deliverable	Frequency
Monthly Status Report (MSR)	Due the 15th working day of each month
Trip/Activity Reports	5 days after completion of trip
Technical Reports/Studies	As required
Subcontracting Status Report	Quarterly
Contractor Roster	As required
Drawing Number Assignment Report	As required
Test Procedures	As required
Test Package	As required
Coordinated Test Plan	As required
Annual Status Report	Annual

9.0 Place of Performance

The Contractor shall perform work at the contractor's facilities and/or onsite at government facilities and on travel in support of designated activities. Because the NIWC Pacific Code 42150 leadership resides in San Diego, the majority of the production and PITCO/GAT support will be required to be supported within the NIWC Pacific (4301 Pacific Highway, San Diego, CA) Area of Responsibility (10 Miles). The majority of engineering support is expected to be off site at the contractor facility.